CLAIMS

1.   A channel estimation circuit comprising:

a tentative channel estimation means for being input with a received signal and performing channel estimation by making use of the received signal and outputting the result of estimation as a tentative channel

5   estimation signal;

a noise/interference power estimation means for being input with signals, including at least, the received signal, among the received signal, the tentative channel estimation signal and a channel estimation signal, and performing estimation of noise and interference power by making

10   use of the input signals, to output the result of estimation as a noise/interference power estimation signal;

a threshold decision means for being input with signals, including at least, the noise/interference power estimation signal, among the noise/interference power estimation signal and the tentative channel

15   estimation signal, and establishing and outputting a threshold signal by making use of the input signals; and

an effective path detection means for being input with the tentative channel estimation signal and the threshold signal and, after removing noise paths having powers smaller than threshold signal among

20   paths of the tentative channel estimation signal, and outputting the remaining signal as the channel estimation signal.

2.   The channel estimation circuit according to Claim 1, wherein the threshold decision means outputs the signal as the threshold signal, after having multiplied the noise/interference power estimation signal by an

arbitrary constant.

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3.   The channel estimation circuit according to Claim 1, wherein the noise/interference power estimation means performs estimation of noise and interference power, by making use of the received signal and the tentative channel estimation signal before the channel estimation signal is

5   input, and performs estimation of noise and interference power, by making use of the received signal and the channel estimation signal after the channel estimation signal has been input.

4.   The channel estimation circuit according to Claim 1, wherein the threshold decision means initially sets the signal as the threshold signal after having multiplied the noise/interference power estimation signal by an arbitrary constant, subtracts x, x being an arbitrary real number, from the

5   maximum path power, which is the power of the path having the maximum power among the paths of the tentative channel estimation signal, outputs the initially established threshold signal when the maximum path power minus x is greater than the initially established threshold signal, and outputs the maximum path power minus x as the threshold signal when the

10   maximum path power minus x is equal to or smaller than the initially established threshold signal.

5.   The channel estimation circuit according to Claim 1, wherein the threshold decision means initially sets the signal as the threshold signal after having multiplied the noise/interference power estimation signal by an arbitrary constant, calculates the sum of the powers of the paths having

5   powers which are equal to or greater than the initially established threshold signal among paths of the tentative channel estimation signal as a total effective power, outputs the initially established threshold signal when the total effective power becomes equal to or greater than y, y being an arbitrary real number, and lowers the threshold signal until the total effective power is

10   equal to greater than y when the total effective power is smaller than y and then outputs that threshold signal.

6.   A channel estimation method comprising:

a step at which a tentative channel estimation means being

15   input with a received signal and performs channel estimation by making use of the received signal and outputs the result of estimation as a tentative channel estimation signal;

a step at which a noise/interference power estimation means being input with signals, including at least, the received signal, among the

20   received signal, the tentative channel estimation signal and a channel estimation signal, and performs estimation of noise and interference power by making use of the input signals, to output the result of estimation as a noise/interference power estimation signal;

a step at which a threshold decision means being input with

25   signals, including at least, the noise/interference power estimation signal, among the noise/interference power estimation signal and the tentative channel estimation signal, to establish and output a threshold signal by making use of the input signals; and

a step at which an effective path detection means being input

30   with the tentative channel estimation signal and the threshold signal and,

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after removing noise paths having powers smaller than threshold signal among paths of the tentative channel estimation signal, outputs the remaining signal as the channel estimation signal.